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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/618,735

07/15/2003

Hajime Mori

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22850

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12/15/2004

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ALEXANDRIA, VA 22314

EXAMINER

PAREKH, NITIN

ART UNIT

PAPER NUMBER

2811

DATE MAILED: 12/15/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/618,735

Applicant(s)

MORI ET AL.

Examiner

Nitin Parekh

Art Unit

2811

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
 - If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
 - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
 - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 07 October 2004.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) 4,5,10,13 and 15-18 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-3,6-9,11,12 and 14 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 15 July 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 4.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

1. Applicant's election without traverse of Group I, claims 1-3, 5-9, 11, 12 and 14 in Paper No. 3 is acknowledged.
2. Claims 5 and 12 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being dependent on the nonelected claim 4, there being no allowable generic or linking claim. Election was made **without** traverse in the reply filed in Paper No. 3.

Drawings

3. Figure 7 should be designated by a legend such as –Prior Art– because only that which is old is illustrated. See MPEP § 608.02(g). Corrected drawings in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. The replacement sheet(s) should be labeled “Replacement Sheet” in the page header (as per 37 CFR 1.121(d)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Objections

4. Claims 1-3, 6 and 14 are objected to because of the following informalities:
 - A. Claims 1-3, 6 and 14 recite the limitation "said structure" in lines 7, 1, 1, 2 and 13 respectively. There is insufficient antecedent basis for this limitation in the claim.

Appropriate correction is required.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claims 1, 2, 9 and 14 are rejected under 35 U.S.C. 102(b) as being anticipated by Kojima et al. (US Pat. 6181854).

Regarding claims 1, 2, 9 and 14, Kojima et al. disclose an optical device module/structure having optical elements mounted package/body (see 30 in Fig. 1-4) comprising:

- optical semiconductor elements having laser diode/photodiode/light-emitting/light-receiving portions and a predetermined/internal structure (not numerically referenced in Fig. 1-4) formed on a primary surface thereof to perform the desired optical device functions
- the optical device module/structure comprising components including optical elements, a block and an optical fiber and a cylindrical ferrule (see 12/14/20/10/8 in Fig. 1), the optical fiber/component optically coupling the optical semiconductor elements

- a silicon substrate (2 in Fig. 1; col. 3, line 13) having a mounting surface formed with a first groove/hollow recess (see 4 in Fig. 1) and conductor patterns the optical semiconductor element being mounted with the primary surface down/junction-down on the substrate such that the optical module/structure having optical semiconductor elements and the first groove/hollow recess of the substrate face each other and the components of the optical module/structure are arranged/formed with a predetermined positional relation to the respective light-emitting/light-receiving portions of the diode/photodiode (see Fig. 1 and 2), and
- the package/body (see 30 in Fig. 3) housing the substrate and the optical semiconductor elements

(Fig. 1-4; Col. 3 and 4).

Regarding claims 3, 6 and 8, Kojima et al. disclose the entire structure as applied to claims 1 and 2 above, wherein the block has a second groove/hollow recess and having a similar cross-sectional shape as that of the first groove/hollow recess to facilitate an alignment of the optical module/structure (see 22 in Fig. 1; Col. 3, lines 48-62) when aligning the ferrule/optical fiber and the respective light-emitting-receiving portions of the optical elements (Col. 3, line 10- Col. 4, line 26). The first and the second grooves/hollow recesses being extended parallel to the light-emitting-receiving direction (see Fig. 1).

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kojima et al. (US Pat. 6181854)

Regarding claim 11, Kojima et al. teach the entire structure as applied to claims 1 and 6 above, except the first hollow being not less than 10mm in width, and not less than 5mm in depth.

The determination of parameters such as shape and dimensions of the groove/hollow including width, depth, etc., diameter of the optical fiber/ferrule, spacing between the optical components, etc. in optical device fabrication and packaging is a subject of routine experimentation and optimization to achieve the desired alignment, component spacing, overall package dimension and the device performance.

It would have been obvious to a person of ordinary skill in the art at the time invention was made to incorporate the first hollow is not less than 10mm in width, and not less than 5mm in depth so that the alignment capability and the

device performance can be improved and the desired package dimensions can be achieved in Kojima et al's optical body.

9. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kojima et al. (US Pat. 6181854) in view of Naito (US Pat. 6309113).

Regarding claim 7, Kojima et al. teach the entire structure as applied to claims 1 and 6 above, except the second hollow being a V-groove.

Naito teaches an optical module (see 50/10 in Fig. 1 and 2) having first and second grooves (see 20/24 in Fig. 2) in the substrate assembly structure where the grooves have V-shape recess/hollow to facilitate an alignment (Col. 3, lines 36-62).

It would have been obvious to a person of ordinary skill in the art at the time invention was made to incorporate the second hollow being a V-groove as taught by Naito so that the alignment capability can be improved in Kojima et al's optical body.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Nitin Parekh whose telephone number is 571-272-1663. The examiner can normally be reached on 09:00AM-05:30PM.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Eddie Lee can be reached on 571-272-1732. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9318.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0956.

NP

12-11-04



NITIN PAREKH

PRIMARY EXAMINER

Technology Center 2800